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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,958	03/17/2004	Karl Pflieger	GP-134-10-US (53051/29231)	4198
40400 7590 01/18/2007 PATENT DEPARTMENT - 53051 KILPATRICK STOCKTON LLP 1001 WEST FOURTH STREET WINSTON-SALEM, NC 27101			EXAMINER PULLIAM, CHRISTYANN R	
			ART UNIT 2169	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/802,958	Applicant(s) PFLEGER ET AL.	
	Examiner Christyann Pulliam	Art Unit 2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on March 17, 2004 thru October 27, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/3/2004, 8/29/2006, 9/6/2006, 10/27/2006.

DETAILED ACTION

1. Claims 1-28 are pending as filed March 17, 2004.
2. Four Information Disclosure Statements have been received on August 3, 2004, August 29, 2006, September 6, 2006 and October 27, 2006 respectively.

Specification

3. The disclosure is objected to because of the following informalities: confusing use of step reference numbers. The descriptions to Figures 2-4 are confusing because of the way the reference numbers are used. Normally the numbers are used to refer to the step. However, the number is given after a description of the step. It is unclear whether the number refers to the step or the last item in the description of the step. To further confuse this issue, some places there are two reference numbers next to each other presumably for the step and the last element mentioned in the step. In order to correct the confusion, try explicitly stating something like: "at step 202, this happens". Appropriate correction is required.
4. The disclosure is objected to because of the following informality: missing letters. In paragraph [0117] on page 7 of the specification, there is a reference to "112" without

any letters. All prior references and the drawings have letters have the 112.

Appropriate correction is required.

5. The disclosure is objected to because of the following informality: "a nightly path process". There is either a spelling error in paragraph [0042] on page 17 or more explanation is needed in order to clarify what a "nightly bath process" would be in computer science terms. Appropriate correction is required.

6. The disclosure is objected to because of the following informality: empty paragraph. On page 16 of the specification, there is a paragraph number [0039] but no text. This extract paragraph number should be removed. Appropriate correction is required.

Claim Objections

7. Claims 24 and 25 are objected to because of the following informalities: incorrect parent claim causes lack of antecedent basis. Claims 24 and 25 have a parent of Claim 15. However, Claim 15 does not contain a popularity measure. For purposes of examination, these claims are interpreted as depending on Claim 16. Appropriate correction is required.

8. Claims 3 and 17 objected to because of the following informalities: lack of clear antecedent basis. In Claims 3 and 17, "the search query" should be "the previously-executed query" since that is the "a search query" previously used. Additionally, it makes it clear that the "search query" being referred is indeed the previously-executed one and not the one that has produced the search result currently being examined. Appropriate correction is required.

9. Claim 15 is objected to because of the following informalities: intended use statements. Using the word "for" before a verb created an intended use statement that does not provide a limiting function. This claim should be reworded using terms that require the element or potential functional limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 7 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "greater than about" in claims 7 and 21 is a relative term which renders the claim indefinite. The term "greater than about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

12. Claims 4-6 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "information retrieval score" is not clearly defined. Therefore, it is unclear what scores are included in the scope of the claim.

13. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "query breadth measure" is not clearly defined. Examples are given but no definitions. Therefore, it is unclear what measures are included in the scope of the claim.

Claim Rejections - 35 USC § 101

14. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. Claims 1-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

16. Claims 1-28 are rejected under 35 U.S.C. 101 because they lack a tangible result, are software per se and lack a proper computer readable medium. The claimed

method is the embodiment of an abstract idea that does not produce a useful, concrete and tangible result as required by judicial interpretation. There is no tangible result in Claims 1 and 15 because the "adjusting" is not presented to the user or another system or method where it can be useful. Claims 2-14 and 16-28 do not add a tangible result to Claims 1 and 15. Additionally, the claims can be implemented completely in software. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). The specification on pages 4-5 define a computer readable medium. The description includes statutory mediums like transmission. All software must be stored on a proper computer-readable medium and executed on hardware. Claim 15 does not clearly require these things because of the

language "on which is encoded". Accordingly due to the lack of a tangible result and a proper computer-readable medium, Claims 1-28 are not statutory.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-3, 7-17 and 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowman et al., U.S. PGPub. No. 2002/0049752 (hereinafter Bowman).

As for Claims 1 and 15, Bowman teaches:

determining a ranking measure for a search result (See e.g. paragraphs [0017] and [0022-0023] and Claim 10); and

adjusting the ranking measure based at least in part on a query breadth measure of a previously-executed search query associated with the search result (See e.g. paragraphs [0048], [0017] and [0022-0023] and Claim 10).

As for Claims 2 and 16, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the ranking measure comprises a popularity measure (See e.g. paragraphs [0043] and [0046]).

As for Claims 3 and 17, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the query breadth measure comprises a quantity of results returned in response to the search query (See e.g. paragraphs [0054-0055]).

As for Claims 7 and 21, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the query breadth measure comprises a quantity of results with an information retrieval score greater than about ninety percent (90%) of a top information retrieval score (See e.g. paragraph [0048] - threshold).

As for Claims 8 and 22, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the query breadth measure comprises a quantity of search terms in a search query (See e.g. paragraph [0048] - number of search terms).

As for Claims 9 and 23, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the query breadth measure comprises a frequency of search query use measure (See e.g. paragraphs [0022-0023] – terms used to produce result).

As for Claims 10 and 24, Bowman teaches the parent Claims 1, 2, 15 and 16. Bowman also teaches wherein the popularity measure comprises a click count (See e.g. paragraphs [0022-0023] – user selections and [0055]).

As for Claims 11 and 25, Bowman teaches the parent Claims 1, 2, 15 and 16. Bowman also teaches wherein the popularity measure comprises a click-through ratio (See e.g. paragraphs [0022-0023] – user selections and [0055] and [0020]).

As for Claims 12 and 26, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the ranking measure comprises a query-dependent ranking measure (See e.g. paragraphs [0017] – level of relevance and [0022-0023] – linking query terms and items).

As for Claims 13 and 27, Bowman teaches the parent Claims 1 and 15. Bowman also teaches wherein the ranking measure comprises a query-independent ranking measure (See e.g. paragraph [0020] – demographic information and time frames).

As for Claims 14 and 28, Bowman teaches the parent Claims 1 and 15. Bowman also teaches further comprising adjusting the ranking measure based at least in part on a plurality of query breadth measures of a plurality of previously-executed search queries associated with the search result (See e.g. paragraphs [0048] and [0059]).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 4-6 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman as applied above, and in view of Culliss, U.S. Patent No. 6,182,068 (hereinafter Culliss).

As for Claims 4 and 18, Bowman teaches the parent Claims 1 and 15. Bowman does not explicitly teach using the drop-off rate of the results. However, Culliss teaches wherein the query breadth measure comprises an information retrieval score drop-off rate (See e.g. col. 7, lines 20-40 and col. 8, line 65-col. 9, line 30).

Bowman and Culliss are from analogous arts of query processing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Bowman and Culliss to use improve the ranking of search results. The motivation to combine Bowman and Culliss comes the shared goal of improving ranking of results based on past searches, past action users and user information.

As for Claims 5 and 19, Bowman teaches the parent Claims 1, 4, 15 and 18. Bowman does not explicitly teach using the drop-off rate of the results. However,

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Culliss teaches wherein the information retrieval score drop-off rate comprises the information retrieval score of a first result in a result set divided into the information retrieval score of a second result in the result set (See e.g. col. 7, lines 20-40 and col. 8, line 65-col. 9, line 30).

The motivation to combine Bowman and Culliss is stated above in Claim 4.

As for Claims 6 and 20, Bowman teaches the parent Claims 1, 4, 5, 15, 18 and 19. Bowman does not explicitly teach using the drop-off rate of the results. However, Culliss teaches wherein one of the first result and the second result comprises the first position in the result set (See e.g. col. 7, lines 20-40 and col. 8, line 65-col. 9, line 30).

The motivation to combine Bowman and Culliss is stated above in Claim 4.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Barrett et al. (U.S. PGPub. No. 2003/0135490) modifies ranking based on numerous different user actions and information.

Bowman et al. (U.S. Patent No. 6,185,558) modifies popularity rankings and uses minimum values.

Edlund et al. (U.S. Patent No. 6,546,388) modifies search ranking based on user selections.

Whitman et al. (U.S. Patent No. 6,772,150) uses historical query submissions.

Ortega et al. (U.S. Patent No. 6,564,213) uses popularity and other customizations in giving scores to search phrases.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christyann Pulliam whose telephone number is 571-270-1007. The examiner can normally be reached on M-Th 8 am-5:30 pm, every other Fri 8am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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